

S/N unknown

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: NOBUHARA et al. Serial No.: unknown
Filed: concurrent herewith Docket No.: 13409.3US01
Title: FILTER CARTRIDGE AND PROCESS FOR PRODUCING THE SAME

CERTIFICATE UNDER 37 CFR 1.10

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By: Yolanda Gray
Name: Yolanda Gray

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D. C. 20231

Dear Sir:

In connection with the above-identified application filed herewith, please enter the following preliminary amendment:

IN THE CLAIMS

Please amend claims 5-11 and 13-15 as follows:

5. The filter cartridge as claimed in claim 1, wherein at least a part of fiber intersections of the non-woven fabric strip is thermally bonded.
6. The filter cartridge as claimed in claim 1, wherein the non-woven fabric strip has a width of 0.5 to 40 cm.
7. The filter cartridge as claimed in claim 1, wherein a product of a width (cm) and a basis weight (g/m²) of the non-woven fabric strip is 10 to 200.
8. The filter cartridge as claimed in claim 1, wherein the non-woven fabric strip has a thickness of 0.02 to 1.20 mm.
9. The filter cartridge as claimed in claim 1, wherein the non-woven fabric strip is thermal compression bonded by means of a heat embossing roll having an embossing area rate of 5 to 25%.

10. The filter cartridge as claimed in claim 1, wherein the filter material of the filter cartridge has a void rate of 65 to 85%.

11. The filter cartridge as claimed in claim 1, wherein the non-woven fabric strip is of a long fiber non-woven fabric.

13. The filter cartridge as claimed in claim 1, wherein the non-woven fabric strip is of a melt blown non-woven fabric.

14. The filter cartridge as claimed in claim 1, wherein the thermoplastic fiber is a composite fiber comprising a low melting resin and a high melting resin, a difference of the melting points between these resins being 100C or more.

15. The filter cartridge as claimed in claim 1, wherein the thermoplastic fiber is a fiber formed from at least one thermoplastic resin selected from the group consisting of a polyester resin, a polyamide resin, a polyethylene resin and a polypropylene resin.

REMARKS

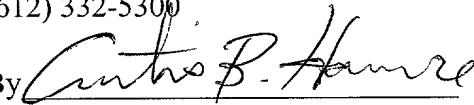
The above preliminary amendment is made to remove multiple dependencies from claims 5-11 and 13-15.

Applicants respectfully request that the preliminary amendment described herein be entered into the record prior to calculation of the filing fee and prior to examination and consideration of the above-identified application.

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicants' primary attorney-of record, Curtis B. Hamre (Reg. No. 29,165), at 612.336.4722.

Respectfully submitted,

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By 
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Dated: April 18, 2001

CBH/kas

Marked-Up Copy of Claims

5. The filter cartridge as claimed in [any one of claims 1 to 3] claim 1, wherein at least a part of fiber intersections of the non-woven fabric strip is thermally bonded.
6. The filter cartridge as claimed in [any one of claims 1 to 3] claim 1, wherein the non-woven fabric strip has a width of 0.5 to 40 cm.
7. The filter cartridge as claimed in [any one of claims 1 to 3] claim 1, wherein a product of a width (cm) and a basis weight (gim2) of the non-woven fabric strip is 10 to 200.
8. The filter cartridge as claimed in [any one of claims 1 to 3] claim 1, wherein the non-woven fabric strip has a thickness of 0.02 to 1.20 mm.
9. The filter cartridge as claimed in [any one of claims 1 to 3] claim 1, wherein the non-woven fabric strip is thermal compression bonded by means of a heat embossing roll having an embossing area rate of 5 to 25%.
10. The filter cartridge as claimed in [any one of claims 1 to 3] claim 1, wherein the filter material of the filter cartridge has a void rate of 65 to 85%.
11. The filter cartridge as claimed in [claim 1 or 3] claim 1, wherein the non-woven fabric strip is of a long fiber non-woven fabric.
13. The filter cartridge as claimed in [claim 1 or 3] claim 1, wherein the non-woven fabric strip is of a melt blown non-woven fabric.
14. The filter cartridge as claimed in [any one of claims 1 to 3] claim 1, wherein the thermoplastic fiber is a composite fiber comprising a low melting resin and a high melting resin, a difference of the melting points between these resins being 100C or more.
15. The filter cartridge as claimed in [any one of claims 1 to 3] claim 1, wherein the thermoplastic fiber is a fiber formed from at least one thermoplastic resin selected from the group consisting of a polyester resin, a polyamide resin, a polyethylene resin and a polypropylene resin.